

Survey the Viewpoints of Medical Externs and Interns of Qom Islamic Azad University about the Status of Effective Clinical Education

Mohammad Javad Ghasemzadeh^a, Alireza Samaa^a, Parham Khoshdani Farahani^a, Tahereh Pashaei^b, Aziz Kamran^c, Siamak Mohebi^{d*}

^aDepartment of Medical Sciences, Qom Branch, Islamic Azad University, Qom, Iran.

^bDepartment of Public health, School of health, Kurdistan University of Medical Sciences, Sanandaj, Iran.

^cDepartment of Public Health, Khalkhal Faculty of Medical Sciences, Ardabil University of Medical Sciences, Ardabil, Iran.

^dDepartment of Public Health, School of Health, Qom University of Medical Sciences, Qom, Iran.

*Correspondence should be addressed to Dr. Siamak Mohebi, Email: smohebi@muq.ac.ir

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Background & Aims of the Study: The effective clinical training is from essential and important parts of medical education. Survey the viewpoints of medical students in this area as the pivot of education can be an effective step in planning of clinical education program and effective and efficient evaluation of it. This study was conducted by the aim of determination of medical externs and interns viewpoints about the effective clinical education.

Materials & Methods: In this cross-sectional study, all of the externs and interns of Qom Islamic Azad University (140 students) were participated in 2012. The data were collected by the valid and reliable researcher-made questionnaire in the six domains of individual characteristics of students, clinical instructor, clinical environment, educational planning, clinical evaluation and facilities that every domain in according to the Likert attitude-meter scale were determined to too low, low, moderate, high and very high.

Results: According to the student's viewpoints, the most efficient domains of clinical education were clinical instructor, individual characteristics of students, educational planning, clinical evaluation, the clinical setting and facilities, respectively. In according to the opinion of under-studied students, the most efficient factors in medical education in the domains of individual characteristics of students, clinical teacher, clinical setting, educational planning, clinical evaluation and facilities are self-confidence, commitment and responsibility, positive attitude to the education of students, the quality of education, existence of a systematic clinical evaluation system and existence of examination room, respectively.

Conclusion: Two domains of clinical instructor and individual characteristics of student were more important than other domains. Therefore, attention to the strengthening of clinical instructor about effective clinical training and also the strengthening of student's interest and confidence in the area of clinical training can be important.

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Background

The main mission of university is training of specialist manpower needed for the society, promotion and improvement of knowledge, research spreading and providing of the favorable environment for development of the country. Nowadays, the needs of society are in

permanent changing; therefore, the universities as a main part of society must change their situations especially in the field of education (1). Among the available professions in the society, the medical profession is from holy professions that it is essential in any society. For this reason, the issue of medical education

and training of efficient manpower are in attention of educational planners (2).

In the recent years in our country, the vast expansion of admission's capacity of universities in the field of medicine resolved the quantitative shortage of physicians. And improvement of the medical education is taken into consideration, specially. It should be noted that professional development is a serious and vital issues in medical education; therefore, the educational program in this field must be designed in such a way that in addition of intellectual growth and development of students, the needed setting for achievement of experience and clinical skills be available (3). Because, the medicine is a combination of science and art and it needs practice for achievement of skill in a safe environment and similar to the original situation (4).

Clinical education is the most important part of medical education and it is an inseparable part of it and in other words, it is a heart of medical education. Because in this stage of education, the learning changed to the practice and the skills can be taught and we can realize the realities of the workplace to the learners (5).

Clinical education is a process that therein, the students by presence on the bedside of patients achieve experience, gradually and prepare their mind for solving of the patient's problems by use of logical thinking and experience (6,7). At this stage of education that therein the clinical teacher and student participate equally, the learning change to the action and the skills taught. Moreover, the realities of workplace realized by the students and the students can develop their theoretical knowledge by practice in training environment and encounter to the problems and various issues (8,9).

The performed studies in the country in the field of clinical training showed that these trainings will not be effective, necessarily (10, 11). Such that some studies suggest that there is a relatively deep rift in the classical medical training and the performance of clinical care (12). In abroad studies also there is a gap

between theoretical learning and clinical services that is due to the lack of clinical environments, lack of coordination between clinical setting and educational institutions and the lack of clarity in the role of teachers, curricula, clinical function, the content of the clinical course and the role of educators and practitioners (13,14).

Since the clinical training is influenced by many factors and variables including factors related to the educators, learners and learning environment (15) therefore, the evaluation of student's opinion as the major client in the educational system is from the way that its results clarify the way of planning and modifying of existing methods in addition to the reflection of current situation. And it is the best source for identifying the clinical training problems because it has a direct interaction with this process (16).

The internships and externship courses are essential for shaping of basic skills and professional abilities of medical students. And about 50% of the training programs in this field are related to these courses. Certainly, the clinical environment is a setting that the students in it learn to assimilate the theory with practice and it is a unique and essential resource in preparing students for their professional role.

Aims of the study:

This study was conducted to determine interns and externs viewpoints in Qom Islamic Azad University about the situation of effective clinical education.

Materials & Methods

This is cross-sectional study that was performed in the first semester of 2012 to 2012. The study population was includes of all of interns and externs of Qom Islamic Azad University. For this reason, all of medical students in externship course (80 persons) and internships course (60 persons) and totally 140 persons in this university were participated in this study by census method. The data collecting tool in this study was a researcher-made questionnaire that

according to previous studies and with researching in similar studies in this field was prepared in 6 domains. This classification was performed based on the qualitative studies that conducted previously in this field (17-20). This questionnaire is consisted of 5 demographic questions and 24 questions related to the clinical training includes the domains of individual characteristics (4 questions), clinical teacher (4 questions), clinical environment (4 questions), educational planning (4 questions), clinical evaluation (4 questions) and facilities (4 questions).

The questions of every domain were designed based on the Likert 5 options attitude meter scale includes very low, low, moderate, high and very high that their score was 1, 2, 3, 4 and 5, respectively. For survey the validity of this questionnaire, it was used from 8 professors of medical universities in Iran. For calculating of reliability of this tool, it was used from the internal consistency index (at least 0.80) at the significant level of lower than 0/001. Above-mentioned questionnaire were filled and completed anonymously with the consent of under-studied samples after explaining of the aims of study.

Data analysis:

In this study, the data were analyzed by the SPSS software Ver. 19 with using of central statistics indices, frequency distribution and T-independent test with the confidence level of 95%.

Results

Among the 140 under-studied students that were included of 80 externs (admission of 2007 and 2008) and 60 interns (admission of 2004 and 2005), the 94.29% (132 persons) and 5.71% (8 persons) were males and females, respectively. The mean of student's age were 24.88 ± 5.13 . According to the viewpoints of students, the most efficient domains in clinical training were clinical instructor, personal characteristics, educational planning, clinical

evaluation, clinical environment and facilities, respectively.

Table 1) Descriptive indices of the factors related to the effective clinical education from the perspective of under-studied units

Related factors	Mean	SD	The acquirable score
personal characteristics	3.76	0.99	1-5
Clinical teacher	3.96	0.99	1-5
Clinical environment	2.95	1.02	1-5
Educational planning	3.54	1.04	1-5
Clinical evaluation	3.13	1.06	1-5
Facilities	2.72	1.06	1-5

The mean and standard deviation of acquired score in 6 domains were calculated. 84.49 ± 24.38 score from the total of 144 score were acquirable that the minimum and maximum were 25 and 120, respectively. For better calculating, the above-mentioned score also calculated on the base of the score of 100 that its mean and standard deviation, minimum and maximum were 57.67 ± 16.93 , 17.36 and 83.33, respectively. The independent T-test among the average score of student's viewpoints in the field of effective clinical training showed no significant difference. ($P=0.668$) The details of the scores of under-studied domains are presented in table-2 based on two groups.

In according to the opinion of under-studied students, the most efficient factors in medical education in the domains of individual characteristics of students, clinical teacher, clinical setting, educational planning, clinical evaluation and facilities are self-confidence, commitment and responsibility, positive attitude to the education of students, the quality of education, existence of a systematic clinical evaluation system and existence of examination room, respectively. (Table 3)

Table 2) The mean and standard deviation of the factors related to effective clinical education in under-studied interns and externs

Related factors	Externs	Interns	P-value
	Mean and SD	Mean and SD	
personal characteristics	3.85 ± 0.96	3.68 ± 1.03	0.302
Clinical teacher	3.93 ± 0.95	4.01 ± 1.04	0.160
Clinical environment	2.76 ± 1.06	3.14 ± 0.99	0.076
Educational planning	3.50 ± 1.05	3.60 ± 1.03	0.401
Clinical evaluation	3.25 ± 1.13	3.02 ± 0.95	0.211
facilities	2.54 ± 1.04	2.90 ± 1.09	0.126

Table 3) The viewpoints of under-studied units related to the factors related to the effective clinical training in different domains

Related factors		very low	low	moderate	high	very high
Individual characteristics	interest	1 (0.7)	13 (9.3)	30 (21.4)	46 (32.9)	50 (35.7)
	Self confidence	2(1.4)	7 (5)	34 (24.3)	48 (34.3)	49 (35)
	Intrinsic motivation	4 (2.9)	12 (8.6)	30 (21.4)	50 (35.7)	44 (31.4)
	Knowledge of students from the aims	9 (6.4)	13 (9.3)	58 (41.4)	34 (24.3)	26 (18.6)
Clinical teacher	Commitment and responsibility	7 (5)	6 (4.3)	42 (30)	56 (40)	29 (20.7)
	Initiative	4 (2.9)	21 (15)	54 (38.6)	43 (30.7)	18 (12.9)
	Clinical insight	4 (2.9)	26 (18.6)	39 (27.9)	48 (34.3)	23 (16.4)
	Punctuality	8 (5.7)	18 (12.9)	47 (33.6)	44 (31.4)	23 (16.4)
Clinical environment	Teamwork and positive atmosphere in the ward	7 (5)	18 (12.9)	40 (28.6)	51 (36.4)	24 (17.1)
	Audiovisual resources	10 (7.1)	25 (17.9)	56 (40)	29 (20.7)	20 (14.3)
	The use from the experiences of older students in new students	6 (4.3)	16 (11.4)	48 (34.3)	46 (32.9)	24 (17.1)
	Positive attitude to the education of students from the department officials	7 (5)	7 (5)	43 (30.7)	49 (35)	34 (24.3)
Educational planning	Coordination and compliance of curriculum with clinical education	10 (7.1)	17 (12.1)	34 (24.3)	45 (32.1)	34 (24.3)
	The existence of program for the quality of education	6 (4.3)	10 (7.1)	43 (30.7)	56 (40)	25 (17.9)
	The existence of program for increasing the quality of education	7 (5)	16 (11.4)	38 (27.1)	48 (34.3)	31 (22.1)
	Involvement of the students in the aims	4 (2.9)	22 (15.7)	41 (29.3)	50 (35.7)	23 (16.4)
Clinical evaluation	Evaluation of the professors by the students	12 (8.6)	21 (15)	48 (34.3)	48 (34.3)	11 (7.9)
	Existence of systematic clinical evaluation	6 (4.3)	21 (15)	52 (37.1)	46 (32.9)	15 (10.7)
	Polling from the patients	18 (12.9)	46 (32.9)	37 (26.4)	18 (12.9)	21 (15)
	Polling from the professors and students	8 (5.7)	24 (17.1)	49 (35)	37 (26.4)	22 (15.7)
facilities	Effects of library and books	7 (5)	8 (5.7)	32 (22.9)	62 (44.3)	31 (22.1)
	Existence of examination room	6 (4.3)	7 (5)	30 (21.4)	50 (35.7)	47 (33.6)
	Easy use of internet	7 (5)	12 (8.6)	28 (20)	42 (30)	51 (36.4)
	Convenient access to conference room	8 (5.7)	21 (15)	46 (32.9)	34 (24.3)	31 (22.1)

Totally, the status of clinical training in the research environment was reported as very weak (4 persons or 2.9%), moderate (55

persons or 33.9%), good (46 persons or 32.9%) and very good (21 persons or 15%).

Discussion

As we know, the value of ideal clinical training in personal and professional development and also in improvement of student's clinical skills is undeniable; because any weakness in the field of clinical education leads to the weakness and declining of efficacy in the medical students (21). Clinical education is a very complex activity and various factors affect its quality. The understanding of student's viewpoints in relation to the factors related to the education and clinic is vital with no doubt (22). According to the achieved results from this study and according to the mean score of various domains, the most important factor in effective clinical training is clinical instructor. In the study of Hasan Zahrai that studied the factors related to the effective clinical training in similar domains also is obtained similar results (17). The importance of clinical instructor appears since that he has a prominent role in empowering learners in efficient learning as a facilitator. This is evident in the study of Wilcock (23). Other studies also have confirmed these findings (24,25). In the study of Delaram and Narenji also the importance of clinical instructor's function has been approved by the students (26,27). This has been proven in qualitative studies so that this issue is mentioned in the study of Hemati (19), Elahi (20) and Heidarzadeh (28). In this regard, Elcigil study showed that the students know the use of theory in practice as the most essential needs in clinical training and they have mentioned it as one of the main responsibilities of clinical instructor (29). In this study, the most important feature of the clinical instructor is achieved as commitment and responsibility of clinical instructor that is consistent with the study of Hasanzahraei (17) and Taheri (18). The study of Sanagoo also is indicator of this issue (30). In another study, the more contact with students, having a positive role, encouraging communication and well

organization of activities are introduced as the features of clinical instructor (31). The study of Heidarzadeh is introduced the personal characteristics of clinical instructor from the perspective of students that includes management features, skills training, moral features, emotional features, outward characteristics and supporting roles (28). The next effective factor in the clinical training was the personal characteristics of the students that are similar to the previous studies (17,18). In this domain, the factor of self-confidence had the most importance in the idea of students. Even interest and intrinsic motivation in this regard was highly rated. It should be noted that even the richest and best organized training programs would not be helpful in the situation of lack of confidence or lack of interest and motivation in the learners. In another study, interest to the educational field and the talent in clinical learning has been reported as the effective factors in the learning motivation of clinical students and ultimately in effective clinical training (32). The study of Hosseini also referred to this issue (33). Hemati's qualitative study also referred to the three essential factors in the clinical education that these factors are consisted of sufficient motivation, personal characteristics and self-confidence (19). Even in the study of Nasiri, all of the teachers believed that the motivation and self-confidence are the most effective factor in learning of clinical skills (34). The next achieved rank in the field of effective factors in the effective clinical training was educational programming in this study. In the field of educational planning should be noted that the foundation of education is educational planning that in the present study in this field, attention to the quality of clinical training had the highest frequency distribution. In Abdi study, students believed that the resolving of inconsistency in the theoretical and clinical education is the most important factor to achieve the desirable quality of clinical training (35). In addition to the quality of education and consistency of

educational programs should be added that in according to the Gerrard study, in the educational planning should be considered the principles of flexibility (to respond to local needs), hybridization (various sources of knowledge), application (ensuring from the acquired knowledge), evidence based medicine (existence of clinical and educational contents) and sharing learning (with other medical professions) (36).

Another related factor in the effective clinical training was clinical evaluation that its average score was 3/13 that it has lower score in compare with the domains of clinical teacher, personal characteristics and educational planning. In the study of Hamdi, more than half of under-studied students acknowledged that the continuous and systemic evaluation program is the most important factor in improving of clinical teachers function (37). In this study; also the existence of continuous clinical evaluation system had the maximum amount. In the study of Tavakoli Ghochani, also the domain of evaluation was from efficient factor in the clinical effectiveness. However, in his study, the clinical evaluation had the lowest score in compare with other domains such as individual and educational characteristics and other inter-personal relationship like the present study (38). Attention to the clinical environment as another efficient factor in clinical training is important. In fact, the positive attitude to the student's education from the department's officials is from the points that in according to the opinion of under-studied samples should be considered. In the Hemati study, the personnel cooperation was one of the factors related to the clinical learning (19). And also the lack of cooperation among the personnel and clinical instructor and students, lack of communication from the physicians and nurses with the students were the most important problems in clinical training in the previous studies (39). In this study, the facilities were another efficient domain in the effective clinical education with the lowest

score among other domains. In this regard, it must be noted that the students are believed to the effectiveness of library, books and easy use of internet in clinical training. Other studies also have focused on this aspect in the clinical training (17,19). In this study with attention to the under-studied domains in the students, the situation of clinical training was very weak (2.9%), weak (10%), moderate (39.3%), well (32.9%) and very good (15%) (21,40). This study was conducted in the quantitative form that the students could answer the questions based on the pre-defined domains available in the previous studies that this is one of the limitations of this study.

Conclusion

Finally, the results of this study showed that the characteristics of clinical instructor and the personal characteristics of students affect the clinical education more than other factors but we should not forget the effect of other domains affecting the clinical training. Therefore, the promotion of under-studied domains and performing of other studies especially qualitative studies on this issue have been proposed.

Footnotes

This article is the result of the professional doctoral thesis that was performed in the Qom Islamic Azad University. Therefore, we appreciate from all of the personnel of this unit, medical interns and externs for their cooperation in the performing of this study.

Conflict of Interest:

The authors declared no conflict of interest.

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